

In the Claims

Please amend the claims as indicated below. The language being added is underlined ("____") and the language being deleted contains strikethrough ("—").

1. (Canceled)
2. (Canceled)
3. (Currently Amended) A method of providing a desired constant AC voltage to a variable load which is arranged remote of a voltage source, comprising the steps of:
compensating for a voltage drop over an electrical supply line which connects the load to the voltage source by a compensation AC voltage, the compensation AC voltage being added to the desired constant AC voltage to determine an output AC voltage of the voltage source;
connecting an ohmic load instead of the variable load via the supply line to the AC voltage source and measuring a total value of the output AC voltage $|U_{full}|$ provided by the voltage source, a total value of an AC voltage $|U_{load}|$ drop over the ohmic load, and a total value of the alternating current $|I|$ which is conducted at that same time;
determining a first constant C_R from the measured values for the linear variation of the compensation AC voltage with the total value of the alternating current and $\cos(\phi)$ from the measured values;
once the constant C_R has been determined, connecting the variable load instead of the ohmic load via the supply line to the AC voltage source; and
varying the compensation AC voltage depending both on an absolute value of an alternating current conducted to the load and on a phase angle ϕ between the output AC voltage of the voltage source and the alternating current, wherein the step of varying

the compensation AC voltage depending both on the absolute value of the alternating current conducted to the load and on the phase angle phi comprises the step of calculating the compensation AC voltage from two summands which are linearly dependent on the total value of the alternating current, and one of which is additionally ~~supplied linearly dependent on cos(phi)~~ comprises the factor $C_R \cdot \cos(\phi)$ and the other of which is additionally ~~supplied linearly dependent on sin(phi)~~;

~~connecting an ohmic load instead of the variable load via the supply line to the AC voltage source, measuring a total value of the output AC voltage $|U_{full}|$ provided by the voltage source, a total value of a AC voltage $|U_{load}|$ drop over the ohmic load, and a total value of the alternating current $|I|$ which is conducted at that same time; and~~

~~determining a first constant C_R for the linear variation of the compensation AC voltage with the total value of the alternating current and $\cos(\phi)$ from the measured values.~~

4. (Original) The method of claim 3, wherein the constant C_R is determined as $(|U_{full}| - |U_{load}|)/|I|$.

5. (Currently Amended) The method of claim 3, further comprising the steps of connecting a mixed ohmic and inductive load instead of the variable load via the supply line to the AC voltage source, measuring a total value of the output AC voltage $|U_{full}|$ provided by the voltage source, a total value of the AC voltage $|U_{load}|$ dropping over the ~~ohmic load~~ ~~ohmic component of the mixed ohmic and inductive load~~, a total value of the current $|I|$ conducted at the same time, and the phase angle phi, and determining a second constant C_L for the ~~supplied~~ linear variation of the compensation AC voltage with the total value of the alternating current and $\sin(\phi)$ from the measured values.

6. (Currently Amended) The method of claim 3, further comprising the steps of:
supplying the output AC voltage to the variable load;
measuring a total value of the output AC voltage $|U_{full}|$ provided by the voltage
source, a total value of the AC voltage $|U_{load}|$ dropping over an ohmic component of the
variable load, a total value of the current $|I|$ conducted at the same time, and the phase
angle phi; and
determining a second constant C_L for the linear variation of the compensation AC
voltage with the total value of the alternating current and $\sin(\phi)$ from the measured
values 5, wherein the mixed ohmic and inductive load at the place of the variable load is
the variable load itself.

7. (Previously Presented) The method of claim 5, wherein the constant C_L is determined as $[(|U_{full}| - |U_{load}| - C_R * |I| * \cos(\phi))] / [|I| * \sin(\phi)]$.

8. (Previously Presented) The method of claim 5, wherein the constant C_L is determined at a value of $|U_{load}|$ which is equal to the desired constant AC voltage.

9. (Previously Presented) The method of claim 8, wherein the constant C_R is determined at a value of $|U_{load}|$ which is equal to the desired constant AC voltage.

10. (Previously Presented) The method of claim 8, wherein the constants C_R and C_L are at first approximated at a value of $|U_{full}|$ which is equal to the desired constant AC voltage, and then a value of $|U_{load}|$ which is equal to the desired constant AC voltage is approached with the approximated values of C_R and C_L .

11. (Previously Presented) A method of providing a desired constant AC voltage to a variable load which is arranged remote of a voltage source, comprising the steps of:

compensating for a voltage drop over an electrical supply line which connects the load to the voltage source by a compensation AC voltage, the compensation AC voltage being added to the desired constant AC voltage to determine an output AC voltage of the voltage source; and

varying the compensation AC voltage depending both on an absolute value of an alternating current conducted to the load and on a phase angle phi between the output AC voltage of the voltage source and the alternating current,

wherein the voltage source is a rotating frequency converter, and further comprising the step of varying an exciting power of a generator to achieve a variation of the compensation AC voltage.

12. (Previously Presented) The method of claim 3, wherein the voltage source is selected from a static frequency converter and an electronically controlled transformer, and further comprising the step of separately varying the compensation AC voltage for each phase of the output AC voltage of the voltage source.

13. (Previously Presented) A method of providing a desired constant AC voltage having a frequency at least 200 Hz to an airplane which is positioned on the ground remote of a voltage source and which is connected to the voltage source via a supply line, comprising the steps of:

connecting an ohmic load via the supply line to the AC voltage source,

measuring a total value of the output AC voltage $|U_{full}|$ provided by the voltage source, a total value of an AC voltage $|U_{load}|$ dropping over the ohmic load, and a total value of the alternating current $|I|$ which is conducted at that same time;

determining a first constant C_R as $(|U_{full}| - |U_{load}|)/|I|$;

connecting a mixed ohmic and inductive load via the supply line to the AC voltage source, measuring a total value of the output AC voltage $|U_{full}|$ provided by the voltage source, a total value of the AC voltage $|U_{load}|$ dropping over the ohmic load, a total value of the current $|I|$ conducted at the same time, and the phase angle phi;

determining a second constant C_L as $[|U_{full}| - |U_{load}| - C_R * |I| * \cos(\phi)]/|I| * \sin(\phi)$;

connecting the airplane via the supply line to the voltage source; and repeatedly calculating a compensation AC voltage as $|I| * C_R * \cos(\phi) + |I| * C_L * \sin(\phi)$ and adding the compensation AC voltage to the desired constant AC voltage to determine an output AC voltage of the voltage source, $|I|$ being the total value of the actual alternating current conducted from the voltage source to the airplane and phi being the actual phase angle between the output AC voltage of the voltage source and the alternating current conducted from the voltage source to the airplane.

14. (Previously Presented) The method of claim 13, further comprising the steps of:
connecting another airplane via the supply line to the voltage source;
repeatedly calculating a compensation AC voltage as $|I|^*C_R^*\cos(\phi) +$
 $|I|^*C_L^*\sin(\phi)$ and adding the compensation AC voltage to the desired constant AC
voltage to determine an output AC voltage of the voltage source, $|I|$ being the total
value of the actual alternating current conducted from the voltage source to the other
airplane and ϕ being the actual phase angle between the output AC voltage of the
voltage source and the alternating current conducted from the voltage source to the
other airplane.

15. (Currently Amended) A system for providing a desired constant AC voltage to a variable load which is arranged remote of a voltage source, comprising:

means for compensating for a voltage drop over an electrical supply line which connects the load to the voltage source by a compensation AC voltage, the compensation AC voltage being added to the desired constant AC voltage to determine an output AC voltage of the voltage source;

means for measuring, once an ohmic load is connected instead of the variable load via the supply line to the AC voltage source, a total value of the output AC voltage $|U_{full}|$ provided by the voltage source, a total value of an AC voltage $|U_{load}|$ drop over the ohmic load, and a total value of the alternating current $|I|$ which is conducted at that same time;

means for determining a first constant C_R from the measured values for the linear variation of the compensation AC voltage with the total value of the alternating current and $\cos(\phi)$ from the measured values;

means for varying, once the variable load is connected instead of the ohmic load via the supply line to the AC voltage source, the compensation AC voltage depending both on an absolute value of an alternating current conducted to the load and on a phase angle ϕ between the output AC voltage of the voltage source and the alternating current, wherein the means for varying the compensation AC voltage depending both on the absolute value of the alternating current conducted to the load and on the phase angle ϕ comprises means for calculating the compensation AC voltage from two summands which are linearly dependent on the total value of the alternating current, and one of which is additionally supply linearly dependent on $\cos(\phi)$ comprises the factor $C_R * \cos(\phi)$ and the other of which is additionally supply linearly dependent on $\sin(\phi)$;

~~means for connecting an ohmic load instead of the variable load via the supply line to the AC voltage source, measuring a total value of the output AC voltage $|U_{full}|$ provided by the voltage source, a total value of a AC voltage $|U_{load}|$ drop over the ohmic load, and a total value of the alternating current $|||$ which is conducted at that same time; and~~

~~means for determining a first constant C_R for the linear variation of the compensation AC voltage with the total value of the alternating current and $\cos(\phi)$ from the measured values.~~

16. (Previously Presented) The system of claim 15, wherein the constant C_R is determined as $(|U_{full}|-|U_{load}|)/|||$.

17. (Currently Amended) The system of claim 15, further comprising means for connecting a mixed ohmic and inductive load instead of the variable load via the supply line to the AC voltage source, means for measuring a total value of the output AC voltage $|U_{full}|$ provided by the voltage source, a total value of the AC voltage $|U_{load}|$ dropping over the ~~ohmic load~~ohmic component of the mixed ohmic and inductive load, a total value of the current $|||$ conducted at the same time, and the phase angle ϕ , and means for determining a second constant C_L for the supply linear variation of the compensation AC voltage with the total value of the alternating current and $\sin(\phi)$ from the measured values.

18. (Currently Amended) The system of claim 15, further comprising means for measuring a total value of the output AC voltage $|U_{full}|$ provided by the voltage source to the variable load, a total value of the AC voltage $|U_{load}|$ dropping over an ohmic component of the variable load, a total value of the current $|I|$ conducted at the same time, and the phase angel phi, and means for determining a second constant C_L for the linear variation of the compensation AC voltage with a total value of the alternating current and $\sin(\phi)$ from the measured values¹⁷, wherein the mixed ohmic and inductive load at the place of the variable load is the variable load itself.

19. (Previously Presented) The system of claim 17, wherein the constant C_L is determined as $[(|U_{full}| - |U_{load}| - C_R * |I| * \cos(\phi))] / [|I| * \sin(\phi)]$.

20. (Previously Presented) The system of claim 17, wherein the constant C_L is determined at a value of $|U_{load}|$ which is equal to the desired constant AC voltage.

21. (Previously Presented) The system of claim 20, wherein the constant C_R is determined at a value of $|U_{load}|$ which is equal to the desired constant AC voltage.

22. (Previously Presented) The system of claim 20, wherein the constants C_R and C_L are at first approximated at a value of $|U_{full}|$ which is equal to the desired constant AC voltage, and then a value of $|U_{load}|$ which is equal to the desired constant AC voltage is approached with the approximated values of C_R and C_L .

23. (New) The method of claim 6, wherein the constant C_L is determined as $[(|U_{full}| - |U_{load}| - C_R * |I| * \cos(\phi)) / (|I| * \sin(\phi))]$.

24. (New) The system of claim 18, wherein the constant C_L is determined as $[(|U_{full}| - |U_{load}| - C_R * |I| * \cos(\phi)) / (|I| * \sin(\phi))]$.